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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,948	01/09/2006	Hans-Thomas Bolms	2003P07493WOUS	3584

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SIEMENS CORPORATION
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EXAMINER
VO, HAI

ART UNIT	PAPER NUMBER
1771	

MAIL DATE	DELIVERY MODE
08/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,948	BOLMS ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-45* is/are pending in the application.

4a) Of the above claim(s) *37-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/09/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 26-36, drawn to a layered structure.

Group II, claim(s) 37-45, drawn to a layered turbine component arrangement.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Claim 1 is anticipated or obvious over Paul (US 7,070,853). As the recited structure does not make a contribution over the prior art, unity of invention is lacking and restriction is appropriate.

During a telephone conversation with John P. Musone on 07/17/2007 a provisional election was made with traverse to prosecute the invention of Group I, claims 26-36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 37-45 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 26-30, 32-34 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Paul (US 7,070,853). Paul discloses a coating system comprising a substrate, a porous layer on the substrate having a pore defined by a wall and a ceramic coating on an interior surface of the wall (figures 9B, 10A and 10B). The substrate is of metal (column 2, lines 45-46). The porous layer has a foam-like structure (column 3, lines 35-40). An intermediate layer is interposed between the substrate and the porous layer (column 3, lines 5-10). The substrate and the porous layer comprise different materials (column 2, lines 45-50). The substrate is secured

to the porous layer by welding (column 3, lines 20-25). The ceramic coating is applied to the pores by plasma spraying (column 3, lines 50-55). The coating system forms a seal between gas turbine casing and turbine blade. Therefore, the coating system would be inherently exposed to a temperature 1000°C to 1600°C. Accordingly, Paul anticipates the claimed subject matter.

5. Claims 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (US 7,070,853) as applied to claim 26 above, and further in view of JP 2000-301655. Paul does not specifically disclose the ceramic coating comprising zirconia as well as a porous layer of MCrAlX. JP'655, however, teaches a coating system comprising a substrate, a porous undercoat of MCrAlX and a top coat of zirconia (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form a MCrAlX porous layer and a topcoat of zirconia motivated by the desire to provide a coating system exhibiting excellent thermal resistance and durability.
6. Claims 26-34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Bamberg et al (US 5,721,057). Bamberg discloses a coating system comprising a metal substrate, an intermediate metal layer, a porous zirconium dioxide layer on the substrate having a pore defined by a wall and a ceramic coating on an interior surface of the wall (column 2, lines 35-60). The porous layer has a foam-like structure. The substrate and the porous layer comprise different materials (example 1). The ceramic coating is zirconium dioxide (column 2, lines 50-55). The metal structural part forms a component of a gas turbine engine. Therefore, the coating

system would be inherently exposed to a temperature 1000°C to 1600°C. The porous layer is welded to the porous layer (column 2, lines 40-47). The ceramic coating is applied to the pores by impregnation (example 1). Accordingly, Bamberg anticipates the claimed subject matter.

7. Claims 26-28, and 31-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (US 2003/0021905). Lee discloses a coating system comprising a metal substrate 2, a porous bond coat 14 on the substrate having a pore 6 defined by a wall and a ceramic coating 16 on an interior surface of the wall (column 2, lines 35-60). The substrate and the porous layer comprise different materials (paragraphs 39 and 41). The ceramic coating is zirconium dioxide (paragraph 43). The substrate forms a component of a gas turbine engine. Therefore, the coating system would be inherently exposed to a temperature of 1000°C to 1600°C. The porous layer is welded to the porous layer (paragraph 41). The ceramic coating is applied to the pores by plasma spray process (paragraph 43). Accordingly, Lee anticipates the claimed subject matter.
8. Claims 26 and 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Vyakarnam et al (US 6,306,424). Vyakarnam teaches a foam composite comprising a fibrous layer attached to a three dimensional interconnected open cell porous foam wherein the open cells are coated with biocompatible ceramic materials (column 17, lines 50-53). It appears that the foam composite meets all the structural limitations set forth in the

claims; therefore, the heat resistance would be inherently present as like material has like property.

Vyakarnam does not teach the foam composite heated to a temperature between 1000°C to 1600°C. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the foam composite of Vyakarnam is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi,* 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Vyakarnam. Accordingly, Vyakarnam anticipates or strongly suggests the claimed subject matter.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV
Date: July 30, 2007

/Hai Vo/
Primary Examiner, Art Unit 1771